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(FILE 'HOME' ENTERED AT 15:00:52 ON 30 JUL 2003)

FILE 'USPATFULL' ENTERED AT 15:01:02 ON 30 JUL 2003

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L1        305822 S PD>20021101
L2          1695 S EPINEPHRIN OR ADRENALINE
L3        244999 S MAGNESIUM
L4         16954 S ADENOSINE
L5           159 S L2 AND L3 AND L4
L6            45 S L5 AND L1
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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	6.35	6.56

SESSION WILL BE HELD FOR 60 MINUTES

STN INTERNATIONAL SESSION SUSPENDED AT 15:04:05 ON 30 JUL 2003

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ANSWER 39 OF 40 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1977:244716 BIOSIS
DN BA64:67080
TI **PERFUSION** OF ISOLATED RAT ADIPOSE CELLS MODULATION OF LIPOLYSIS BY **ADENOSINE**.
AU TURPIN P; DUCKWORTH W C; SOLOMON S S
SO J CLIN INVEST, (1977) 60 (2), 442-448.
CODEN: JCINAO. ISSN: 0021-9738.
FS BA; OLD
LA Unavailable
AB Various combinations of **epinephrine**, **adenosine**, and **adenosine** deaminase were perifused through the adipocytes. Exogenous **adenosine**, 0.001-10.0 .mu.M, had no discernible influence upon unstimulated lipolysis; exogenous **adenosine** inhibited **epinephrine**-sensitive lipolysis in a concentration-dependent manner. Cells perifused with 0.3 .mu.M **epinephrine** plus 0.001 .mu.M **adenosine** did not show any impairment of the lipolytic response to 0.3 .mu.M **epinephrine** alone. **Adenosine**, 0.01 .mu.M, inhibited the response to **epinephrine** by 50%; response to 0.3 .mu.M **epinephrine** plus 0.1 .mu.M **adenosine** was similar to the basal rate. Perifusion with **adenosine** deaminase significantly increased basal lipolysis to 30% of the **epinephrine** response. **Adenosine** deaminase and **epinephrine** were synergistic in stimulating lipolysis to 180% of the response to **epinephrine** alone. Isolated fat cells were incubated for 30 min, and the cell-free used medium was perifused through fresh fat cells. **Epinephrine** in used medium was less effective in promoting lipolysis than **epinephrine** in fresh buffer. High-pressure liquid chromatography identified **adenosine** in the used medium. Bovine serum albumin possessed **adenosine** deaminase activity but accounted for negligible conversion of **adenosine** to inosine. **Adenosine** had a modulating effect upon basal and hormone-stimulated lipolysis in the perifusion system. Sufficient endogenous **adenosine** (< 0.01 .mu.M) is present to maximally affect basal lipolysis. Hormone-stimulated lipolysis, although inhibited somewhat by endogenous **adenosine**, requires the addition of exogenous **adenosine** for complete inhibition.

L5 ANSWER 10 OF 40 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1995:263117 BIOSIS
DN PREV199598277417
TI Effects of extracellular magnesium and beta adrenergic stimulation on contractile force and magnesium mobilization in the isolated rat heart.
AU Howarth, Frank C.; Waring, John; Hustler, Brenda I.; Singh, Jaipaul (1)
CS (1) Cell Communication Group, Dep. Applied Biol., Univ. Central Lancashire, Preston PR1 2HE UK
SO Magnesium Research, (1994) Vol. 7, No. 3-4, pp. 187-197. ISSN: 0953-1424.
DT Article
LA English
SL English; French
AB This study investigates the metabolism of the divalent cation, magnesium (Mg-2+) in the isolated perfused Langendorff's rat heart and ventricular slices in the absence and presence of catecholamines including isoprenaline, noradrenaline and adrenaline. **Perfusion** of the isolated rat heart with a physiological salt solution containing elevated extracellular Mg-2+ (Mg-2+)-o (2.4 mM-6.0 mM) resulted in a marked and progressive decrease in the amplitude of contraction compared to control (Mg-2+)-o (1.2 mM). In contrast, **perfusion** of hearts with low (0-0.6 mM) (Mg-2+)-o caused a small transient increase in the amplitude of contraction which was often accompanied by arrhythmic activity. **Perfusion** of the heart with a nominally Mg-2+ free medium resulted in a time-dependent net efflux of Mg-2+ reaching a steady state after approximately 40-50 min of **perfusion**. This release of Mg-2+ was associated with a concurrent decrease in total heart Mg-2+. Stimulation of the heart with the beta adrenergic agonist, isoprenaline (10-7 M) caused large increases in net Mg-2+ efflux which was associated with marked increases in both rate and the amplitude of contraction. Similar effects on Mg-2+ efflux were also observed during **perfusion** of the heart with the adenylate cyclase activator, forskolin (10-5 M). Superfusion of paced ventricular segments with either isoprenaline, adrenaline or noradrenaline (all 10-6 M) also resulted in a marked transient net efflux of Mg-2+. Pre-treatment of segments with the beta adrenergic antagonist, propranolol (10-5 M) competitively blocked the Mg-2+ efflux evoked by the catecholamines. Similarly, pre-treatment of segments with the calcium (Ca-2+) channel blocker, verapamil (10-5 M) caused a significant (P lt 0.05) decrease in net Mg-2+ efflux evoked by isoprenaline. The results of this study indicate that (1) the perturbation of (Mg-2+)-o has an important influence on myocardial contractility and (2) the mobilization of Mg-2+ in the heart is associated with beta adrenergic stimulation possibly via an elevation in intracellular **adenosine** 3,5 cyclic monophosphate (cyclic AMP).

2 ANSWER 36 OF 37 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1974:114473 BIOSIS
DN BA57:14173
TI GAMMA GLOBULIN CONTAMINATION OF **COMMERCIAL** BOVINE **ALBUMIN**.
AU SIMMONS A; JONES J; HENDRIX D
SO TRANSFUSION (PHILA), (1973) 13 (3), 142-145.
CODEN: TRANAT. ISSN: 0041-1132.
FS BA; OLD
LA Unavailable

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L9 ANSWER 826 OF 840 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1971:113860 BIOSIS
DN BA52:23860
TI IDENTIFICATION OF **ALBUMIN** BOUND **FATTY-ACIDS**
AS THE MAJOR FACTOR IN SERUM INDUCED LIPID ACCUMULATION BY CULTURED CELLS.
AU MACKENZIE C G; MACKENZIE J B; REISS O K; WISNESKI J A
SO J LIPID RES, (1970) 11 (6), 571-582.
CODEN: JLPRAW. ISSN: 0022-2275.
FS BA; OLD
LA Unavailable

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L10 ANSWER 14 OF 26 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1981:188126 BIOSIS
DN BA71:58118
TI THE ROLE OF COMMERCIAL BOVINE SERUM ALBUMIN PREPARATIONS IN THE CULTURE OF
1 CELL RABBIT EMBRYOS TO BLASTOCYSTS.
AU KANE M T; HEADON D R
CS DEP. OF PHYSIOL., UNIV. COLLEGE, GALWAY, IRELAND.
SO J REPROD FERTIL, (1980) 60 (2), 469-476.
CODEN: JRPFA4. ISSN: 0022-4251.
FS BA; OLD
LA English
AB Normal bovine serum albumin (BSA) in a complete medium without energy substrates promoted growth of 1-cell embryos to hatched blastocysts. Defatted charcoal-treated BSA did not promote growth to the blastocyst stage but the addition of pyruvate or palmitic and oleic acids allowed blastocyst growth but not blastocyst hatching. Sodium dodecyl sulfate-gel electrophoresis showed that both the normal and defatted BSA samples were heavily contaminated by proteins other than albumin. Normal BSA fractionation on Sephadex G-200 indicated that the property of promoting complete blastocyst hatching was not due to the albumin but was associated with the higher MW fraction of the BSA. Normal BSA extraction with chloroform appeared to destroy the hatching-promoting ability as neither the residue after extraction nor defatted BSA to which the organic extractate had been added promoted complete blastocyst hatching. Evidently, commercial BSA may have at least 2 effects on blastocyst growth: energy provision via **albumin-bound fatty acids** and promotion of blastocyst hatching by a non-albumin component.

36, 34, 32, 31, 29, 10

28, 25, 23, 21, 19, 10

25, 14, 10, 6

L18 ANSWER 6 OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1996:266438 BIOSIS
DN PREV199698822567
TI Effects of free fatty acids on the binding of bovine and human serum **albumin** with **steroid** hormones.
AU Watanabe, Sadao (1); Sato, Toshiaki
CS (1) Kanagawa Prefectural Public Health Lab., 52-2 Nakao-cho, Asahi-ku, Yokohama 241 Japan
SO Biochimica et Biophysica Acta, (1996) Vol. 1289, No. 3, pp. 385-396. ISSN: 0006-3002.
DT Article
LA English
AB Recent studies have shown that, in addition to free **steroid** hormones, those **bound** to albumin in plasma may also be available to tissues. In this report, the effects of free fatty acids (FFA) on the binding of **steroids** to albumin were compared for the cases of bovine serum albumin (BSA) and human serum albumin (HSA). The apparent association constant, K-a, was estimated from the changes in the equilibrium partition coefficient of **steroids** between the aqueous/hexane phases caused by the addition of albumin to the aqueous phase. In the case of BSA, K-a for progesterone and testosterone increased upon binding of FFA (myristic, palmitic and stearic acid) to BSA and the maximum value of K-a for these **steroids** could be attained by 3-4 mol of FFA **bound** per mol BSA. Furthermore, the elution profiles of gel-filtration chromatography clearly showed that progesterone and testosterone are easily liberated from the **steroid**/BSA complexes and that FFA potentiates the binding of these **steroids** to BSA. In the case of HSA, the binding affinities of progesterone and testosterone were not greatly affected by **bound** FFA. On the other hand, the affinities of ethynylestradiol to both BSA and HSA were unaffected below 4 mol of FFA binding per mol.